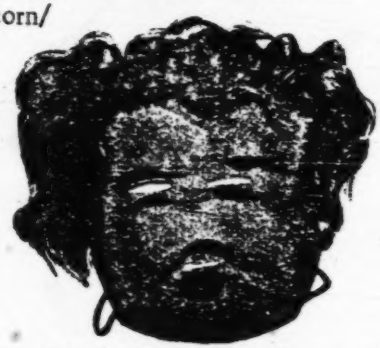
/341 cont./

241 115 ladder, that is, a thick branch with deep cuts for steps. Captain Karnapadyú's chacra /cultivated clearing/ was about 200 meters by 70 meters in size. At the edge stood a small wooden hut covered with straw.

The "Captain" began by showing me some manioc plants and had me cross a large square sown exclusively with beans and gourds /citronilles/. The corn fields came next. They were divided in two by a second hedge formed of trunks and thorns. Squash /courges/ grew between the rows of corn. After the maĩzal /field of corn/ followed a second expanse covered with beans, squash, and melons, which Karnapadyú told me belonged to his daughter. Here and there rose several stalks of sorghum. A new corn-field was opposite the



241 532 322 ● 237 Fig. 8. Mask (tovaraanga) carved out of a calabash and provided with hair and eyebrows of horsehair. It was hung up in a planted field where it was serving as a scarecrow. Prov.: Cararutí. (1/5 nat. size.)

241 115 [322] [415] [824] first, and another cabin rose at its edge. In both of these properties the only plants cultivated for their manufacturing value were the cucurbitaceous ones from which the Indians make their cups and bottles.

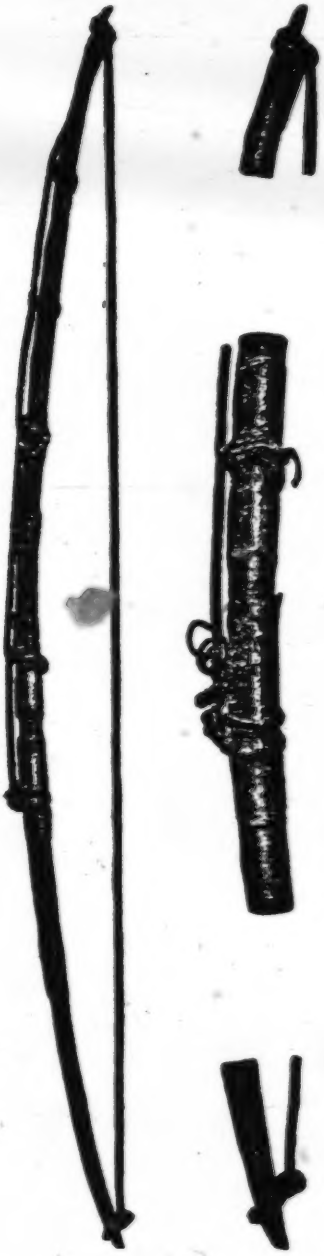
Next, on the opposite cliff, I visited the chacra of another Indian of the same village. A steeper and more difficult road than the first led to it. The plantation was lower down a hill on which a little hut was perched. These fields were almost solely covered with corn among whose stalks grew squash. As before, the maĩzales were preceded by plantings of beans and squash.

1: Métraux--82 E-5 (1929) 1930 SF10 Chiriguano SF10
Chane SF8

C
412
237

C
[304]

Fig. 12. Deerhorn awl (wasu-pirasa). Formerly the Chiriguano used them to pierce the lower lip of their children. Prov.: Saladito. (1/2 nat. size.)



Ce
411

Ce
[284]

Fig. 13. Bow of the Chané Indians. Outside surface semicircular; inside surface flat. The bow is reinforced with casings of deerskin (?). Prov.: Tuyuntí (Salta Prov., Argentine Rep.). (1/7 nat. size.)

/365 cont./

273 The preparation of chicha is not play; it is necessary not only /366/ to grind an enormous quantity of corn, but again to go
484 ceaselessly to get water, often at a great distance. At Cururutí
482 the nearest potable water was at the bottom of a ravine of particu-
273 larly difficult access. The women were constantly going there with an îru (Plate XVII, 1), which they carried on their backs in a net (añapoka) held on the forehead by a strap. They would fill

462
516
273
291
415
412

Fig. 31. Woman sifting corn which she has just ground in the mortar beside her. This flour is to be roasted, then chewed to serve as ferment for kāwi. Cararutí. (Photo. A. M.)

484 the jug and, loading it with difficulty, would go back up the
482 steep slope doubled over under the weight. So as not to lose any
273 time, these hard-working creatures would take along a calabash full of ground corn which they continually chewed.

273 The ground corn is cooked in water and constantly stirred
412 with flat sticks whose edges used to be cut out with a certain
[178] artistic care in olden days (Fig. 32). Today a kind of oar (Fig.
[237] 33) or the scapula of an ox (Fig. 34) fastened to a long handle
[531] replaces the ancient utensils in which was manifested so well the Chiriguano tendency to decorate even the most humble objects.

2/11 [For plate XVII, See category 116, P. 127-- Analyst]

/337 cont./

273
462

The umopirai is added to the kāwi, which from this moment on is subjected to intense cooking. A large, bright fire is lighted around the vat containing it and burns day and night; the women go to stir it from time to time to keep it from sticking.

At night the village of Caruruti has a strange look: over the open square in front of the huts high flames rise, against which are outlined in black the silhouettes of the women who, busy and hard-working, do not take time to sleep. The next morning the fire is allowed to go out and the kāwi to cool. It is then decanted into vessels of smaller dimensions, and all the women, including little girls, assemble to take handfuls of the marc and chew it, one trying to outdo the other. These balls, sticky with saliva, are spit back into the vessel. A rather large amount of cold water is added to the kāwi, and right afterward comes the bottling, if I may so express myself. The kāwi is strained through a very fine-meshed sieve. The marc, or siripi, /368/ is thrown away or used again. The beer, or pale wine, is distributed into vessels which are carefully closed with a calabash or bowl, and this liquid is left to ferment for two or three days. So that it may be completely protected from the air, the line of contact between the vessel and its cover is smeared with clay.

273
412

Fig. 33. Oar for stirring kāwi during cooking. Prov.: Pípi. (1/9 nat. size.)

Fig. 34. Shovel ending in an ox scapula which the Chiriguano use for stirring kāwi. Prov.: Ppi. (1/10 nat. size.)

[237]

/374 cont./

415 surmounted by two nipples, remains of stylized ears. These protuberances can be perforated and allow a suspension cord to pass through, which permits hooking the bowl to a beam of the hut (Fig. 41).

Spoons

412 Spoons are very common among the Chiriguano. Their
171 form connects them closely to those which have been made
172 known to us by the excavations carried out on the Bolivian altiplano and in northwestern Argentina. It is among the ancient populations of this region that we must seek the origin of this cultural element (on this subject see Nordenskiöld, 9, pp. 91-92), of which the Chiriguano have faithfully kept the primitive aspect and even certain peculiarities such as the indentations of the handle which /Plates XIX-XXI appear here/ /375/ are seen on one of our specimens and on one discovered in the Puna de Jujuy (Pucara de Rinconada) by Boman (2, Vol. II, Plate LIX, Fig. 142).

412 Beside these spoons, whose use spread under the influence
● 237 of the civilized peoples of the west, the Chiriguano kept the
824 most rudimentary forms of this utensil: the valves of a fresh-water mollusk (anodonta) (in Chiriguano: inta) are often used by them to eat liquid dishes; the shell of the fruit of a bignoniacea (?) opened lengthwise also appears in the north of the Chiriguano territory as the survival of a time when spoons were still unknown to them (Fig. 44).

412 Some small calabashes, ovoid or round, with a jutting peduncle, can, after being cut through the middle, replace
[171] wooden spoons to advantage (Fig. 45). It was in this natural form that the spoon spread in tropical America where Andean influence did not make itself felt. The Chiriguano do not disdain using these half-calabashes to dip into the bean pot or the meat broth. Calabashes like the one of Figure 46 /see p. 139/ take the place of ladles.

/383 cont./

323 Chiriguano woman will never be seen making one single vessel at a time: since before continuing she must wait until each one of the parts making up the piece of pottery is dry, she occupies this interval by beginning another vessel, which will dry while she works on the first one again.

415
531

Figs. 57-58. Vessels (yapepó). The rolls of clay of which they are composed are still apparent and constitute a rudimentary ornamentation. No. 57 comes from Caruruti, No. 58 from Yacuiba. (1/4 nat. size.)

323 /384/ When she judges that the bottom has taken on some firmness, she rolls between her hands a roll to which she tries to give a regular diameter. Then she applies it on the base, forming a perfect circle. She cuts off the part which extends beyond the junction point. Next she flattens the roll with her hand, the compression being made from inside to outside, with the back of the left hand and the right palm. When the whole periphery has thus been raised, she evens off the edge, filling all the depressions with pieces [824] [412] of wet earth. Then she smooths the outside of the vessel with a stripped ear of corn and a splinter of bamboo. These two instruments are placed beside her and frequently dipped in water so that the earth [239] does not stick to them. The inside surfaces are polished with the valve of a shell (anodonta) (Plate XXIV, 2). The raw clay, once it is shaped, is supple and resistant like leather. Vessels can be

C
323 /384 cont./ made only in the sunshine. One day when rain threatened to fall, the women hurried to grab the vessel they were in the act of making and to carry it into the hut. It was swinging on all sides during this moving, but did not break at all.

From base to neck the vessel is constructed in the same fashion, the number of rolls superposed varying with the size of the vessel but never being very large. The handles are added last. Some are twisted and have been obtained in the following manner: a long, thin roll is bent in two and rolled on itself.

When finished, the vessel is put to dry. After it has hardened, the potter rubs it on the inside with a shining, polished stone (tankua or ita-nkua) (Plate XXIV, 3-4) until the surface is rendered shiny as /Plate XXIV appears here/ /385/ if glazed. The purpose of this operation is to avoid porosity of the inner wall of the vessel, which without that would be too permeable. The exterior of ordinary vessels is left as is. Vessels that are to be painted are apparently also polished on the outside. The polishing of the vessel is done over several days and slowly. The potter does it with great care (see Fig. 66).

C
[237] [413] If the vessel is to be painted, the color is applied with a brush made of agouti hair or feathers held together in a tuft with wax (Plate XXIV, 1).

C
Ce
386 The coloring materials used by the Chiriguano and Chané are of mineral and vegetable origin. The first are taken from rocks, of which I have had samples examined petrographically and chemically.

Chemical analysis gave the following results: the yellow samples contain clay (aluminum silicate and calcium carbonate) and iron in the form of hydrated oxide; the reds are of the same composition but contain less hydrated iron oxide and more iron oxide. In a specimen of yellow-brown ocher the iron oxide is abundant. In another, hard and compact, of a red-violet tint, the iron is almost entirely in the state of anhydrous oxide.

The yellow, red, and dark-yellow ochers, when heated in a test tube, change color and become dark red, with the exception of the violet specimen which remains invariable.

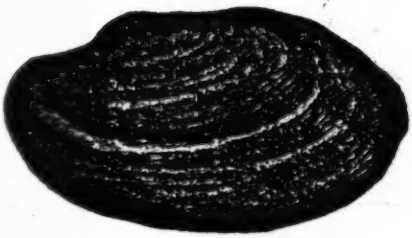
[Text Continues on P. 154]

1: Métraux--153 E-5 (1929) 1930 SF10 Chiriguano SF10

Plate XXIV

323
237
[413]

1.



2

323
412

3

4

323
237

5

Accessories of a Chiriguano potter. -- 1. Brush made of feathers held together with wax. Prov.: Ibopeytí. (Nat. size.) -- 2. Valve of a fresh-water mollusk (inta), used to smooth the inside surface of the vessels. Prov.: Ibopeytí. (1/2 nat. size.) -- 3 and 4. Stones used for polishing the exterior and interior surfaces of vessels before firing (intankua). These two stones were found inside a funerary urn in Cararutí. (2/3 nat. size.) -- 5. Excrescence formed by an insect on the branches of trees of resinous species, which the Chiriguano utilize for tracing out black and shiny figures on their vessels (tarawirisi). Prov.: Ibopytí. (⅓ nat. size.)

C
Ce
386

/385 cont./

Two gray minerals are silicates of aluminum and calcium with traces of iron. They are almost pure clays.

A jet-black mineral is a calcareous manganese-bearing complex (manganese dioxide in the form of oxide crossed by veins of calcite).

Petrographically, these samples are some yellow ochers very compact (manganese-bearing, quartzose) or somewhat sandy, some very sandy red ochers, and finally slightly sandy clays.

The ochers all give a red color, pyrolusite (?) furnishes black, and the pure clays the yellowish white on which red and black motifs stand out (1).

1. Nordenskiöld (10, p. 145): "The colours used by the Chiriguano and the Chané on the Rio Itiyuro are black, red, brown and white. The white is caolin, the red, brown and black are obtained by pulverizing schists of these colours." /cited in English./

C
323

Colors of mineral origin are applied on the walls of the dried and polished vessel before firing.

C
323
237

Most of the vessels from the upper Pilcomayo are distinctive because of motifs of a glossy, solid black which the Indians obtain by rubbing, shortly after firing, with a resinous excrescence looking like a white muff, which a kind of cochineal (?) forms around /386/ mimosa branches (in Chiriguano: iskayanti) and in which she deposits eggs (Plate XXIV, 5).

According to Father Giannechini (Diccionario Chiriguano-Español, etc., p. 200), who was the first to note the use of this material, it was a question of the viscous saliva of an ant (?) which sticks to the trees. The /Fig. 59 appears here/ Chiriguano potters would use it to paint their vessels after mixing it with roucou. In reality, this information is inexact. The resinous muff is not made of saliva but a kind of manna or lac. It is rubbed directly against the sides of the vessel to produce the solid, glossy black of certain motifs.

/433 cont./

283
291
516
142

Fig. 87. Chiriguano woman getting ready to spin. Carurutí. (Photo. A. M.)

286 The reed of our European looms is replaced here by an /Fig. 88 appears here/ interlacing of threads which grasp one thread of the warp, then the other, alternately.

286
413 The woof is passed through with the help of a shuttle whose motion back and forth is facilitated by a weaver's sword (iwirapé) which separates the warp threads. This latter instrument is used to tighten the cloth each time the woof has passed through. A [237] mammalian metatarsal bone sharpened to a point (Fig. 92) or a small pointed or spindle-shaped stick (Figs. 93 and 94) permits

C /436 cont./

286 Modern Chiriguano fabrics show almost no originality. They
531 are generally plain, and, if they present some linear motifs,
179 these are servilely copied from models coming from the Andean
000 region. The Quichua /Quechua/ fabrics, prototypes of those of

C
286
413

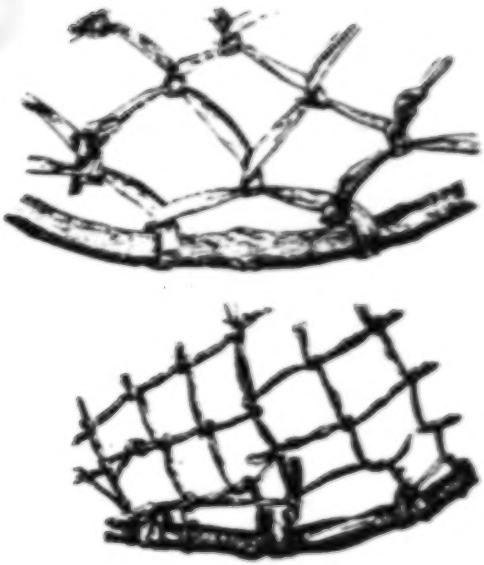
C
[237]

Fig. 92. Metatarsal bone of a mammal, carved in the shape of a dagger, which the Chiriguano women utilize to cross and then tighten the warp threads. Prov.: Ivu. (1/2 nat. size.)

Figs. 93-94. Awls (kiruna) for crossing and then tightening the warp threads. Prov.: Salado Grande. (2/5 nat. size.)

M.Q.
286 The Quichua /Quechua/ fabrics, prototypes of those of
531 the Chiriguano, are nevertheless of better quality and greater richness of ornamentation. In addition to purely geometric designs they are often decorated with small figures representing animals or human beings.

352
286



414
239

Fig. 127. Sketch indicating the technique of the hoops of the type of the one in Figure 126.

Fig. 128. Deer foot dried in the sun to serve as a hook for hanging. Prov.: Saladito. (About 1/5 nat. size.)

352

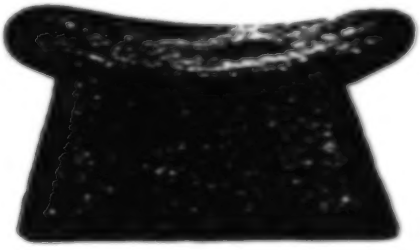


Fig. 129. Double-runnered bench. Prov.: Ibopeyti. (About 1/7 nat. size.)

/471 cont./

353 and 127). Everything in the world can be found there: small vessels, baskets, boxes, packages carefully wrapped in cloth, in short, a thousand little objects which the Chiriguano women regard as their treasure. From the roof hang hooks from which [414] are suspended household effects or supplies. These hooks are [237] generally of wood, but there are some also which are formed by a deer foot bent back and dried in the sun (Fig. 128).

Every chink in the walls is transformed into a hiding-place where the women put their scissors, the men their knives or combs. /472/ Bows and arrows are slipped between the struts of the roof.

In some huts whose walls are plastered with earth, the Indians arrange niches in the shape of swallows' nests, which serve as rudimentary cupboards. Might there be in that a distant remembrance of the niches so characteristic of Inca houses? It is possible.

352 The inhabitants of each hut sit on the cots or on /Figs.
516 130-132 appear here/ chairs with backs very well copied from
[199] those of the creoles. The women generally squat on the ground.
[198] On the upper Pilcomayo, one still finds benches with two seats (Fig. 129), a cultural element which the Chiriguano inherited from their ancestors of the Amazon basin.

356 The fire for cooking is lighted in the middle of the hut.
[354] Chiriguano dwellings are clean. I have never caught fleas or other vermin there as I have in the ranchos of creoles or half-breeds. The women sweep their huts at least once a day. One is rarely disturbed there by mice (Fig. 132).

1: Métraux--343 E-5 (1929) 1930 SF10 Chiriguano SF10

415
239

Fig. 130. Armadillo shell (tatu-pire) in which Chiriguano women keep objects for needlework, small pieces of cloth, etc. Prov.: Saladito. (About 1/3 nat. size.)

412
824

Fig. 131. Bull's testicle (toro-upía) which the Chiriguano hang up in their huts as a small container. Prov.: Saladito. (About 1/7 nat. size.)

415
239

Fig. 132. Broom made of karandaí leaves (tupisa). Prov.: Yumbía (upper Pilcomayo). (About 1/4 nat. size.)

/482 cont./

Judging from this text, the Chiriguano sorcerer, like his Tupinamba or Siberian colleague, put himself into a state of trance so that his spirit, free from corporeal bonds, could go to engage in battle with the soul of the evil-intentioned individual who is implacable against his patient.

The hupia, that is, the magical force, is indispensable to one who claims to be a good sorcerer. At least this is the meaning I give to this word translated in the Diccionario Chiriguano-Español y Español-Chiriguano etc. (p. 73) by: "remedy, antidote," but of which it is said that possession is indispensable to every medicine man. This word suffixed to any noun whatever expresses the faculty, the power, the facility to make or obtain the thing signified by the noun. Thus a dog trained to hunt deer is wazu-rupia (wazu deer), a warrior is tuwallo-rupia (tuwallo enemy), etc.

Fig. 137. Calabash containing snake fat. Prov.: Saladito. (About 1/2 nat. size.)

Remedies. 1. Snake fat (mboibira) is efficacious against leprosy. The Indians keep it in a small calabash sealed with wax (Fig. 137).

2. A little cotton impregnated with castor oil (yandi) and rubbed on the skin is an excellent liniment for rheumatism.

3. A similar virtue is attributed to chicken fat (Fig. 138). In everyday life they resort to chicken fat or castor oil to anoint the body, which they then rub with roucou paste. Women generally have their

Fig. 138. Section of bamboo containing chicken fat. Prov.: Caipipendi. (1/2 nat. size.)

/462 cont./

362 faces and legs oiled in this way, which gives them a very strange reddish and shiny hue. This custom, which was already noted /463/ in the sixteenth century among the Tupinamba of the Brazilian coast, is tending to fall into disuse.

[191] [196]

Roucou in paste form is kept in a small corn-husk bag (Fig. 139). /Fig. 139 appears here/ as is kalasapa, a substance composed of a mixture of roucou and pounded aroma seeds, which gives a violet color.

302 386 [419]

4. Jaguar fat (yaguapira) cures any "leprosy" (karafi) if one rubs oneself with it after heating it.

757 237

5. Iguana fat makes cramps go away and heals wounds. Its use is external.

[952]

6. The dried penis of a fox makes toothaches and earaches go away. For that it suffices to touch the ailing part with the end /Fig. 140 appears here/ of this member. The Indians consider it very malodorous and touch it only with repugnance. To avoid this inconvenience they provide it with a handle and shut it up in a bamboo case (Fig. 141).

[415]

7. Deerhorn heated and /Fig. 141 appears here/ applied against the neck will cure a stiff neck. The medical use of deer (wasu) horns explains the frequent presence of the horns of this animal in the archeological strata of the neighboring Andean regions. Some have thus been found in the ruins of the Alfarcito, in the Quebrada de Humahuaca (Debenedetti, 4, p. 21), at Tilcara (Debenedetti, 5, p. 227), at La Paya (Ambrosetti, 6, Fig. 235, p. 452), and at Tastil (Boman, 7, Vol. I, Plate XXIX, Fig. 78 f).

[172]

Horns adhering to a fragment of the skull and whose use could only have been magical or medical must be distinguished from the ones which the Indians work into awls. These instruments still have a ritual use and are reserved for piercing the lower lip of children when they are old enough to wear the labret. At least this is what Campana (p. 80) informs us. Besides, the Indians all have confirmed this detail to me. Formerly, the Tupinamba of Brazil practiced this operation with an awl of the same nature (see Métraux, 3, p. 105).

958 308 237 412

[171]

In Métraux--364 E-5 (1959) 1930 SP10 Chiriguano SP10

824
302
115
382

Fig. 139. Small bag made of corn husks, containing roucou paste. Prov.: Salado grande (upper Pilcomayo). (About 1/2 nat. size.)

Fig. 140. Calabash containing roucou seeds. Prov.: Caipipendi. (About 1/3 nat. size.)

415
359

Fig. 141. Case containing a fox penis (<u>oguare-kankuy</u>). Prov.: Ibapeyti. (About 1/3 nat. size.)

/484/

However, these awls are too abundant in each village for their use to be only sacred. It is probable that the Chiriguano use them as a simple tool for solely secular purposes.

At Tilcara, Debenedetti (2, Fig. 176, p. 232) discovered specimens made of deerhorn identical with our Chiriguano examples.

8. I have in my collections seeds whose virtues are multiple: they are an excellent remedy for skin eruptions, ulcers, and toothaches.

9. For stomach-ache the Chiriguano recommend the absorption of particles of wood (mboipinda).

10. Certain seeds (of a graminaceous plant?) when crushed give a paste or powder with which they treat animals whose sores are attacked by worms.

11. When cows' hooves tend to work loose, they bathe them with fragments of limestone (itaiwi).

12. Fat extracted from a cow's foot is an effective ointment for cases of rheumatism.

13. The beak of the toucan is said to enjoy great medicinal properties. They grate it and drink in water the powder which comes from it (Campana, 111).

Stitches in the side and dysentery are treated with a piece of armadillo shell burned, ground, and dissolved in water, which the patient drinks.

In the Diccionario Chiriguano-Español y Español-Chiriguano etc. (passim) and Nino's book (pp. 288-290) is found many a very interesting piece of information on the pharmacopoeia of the Chiriguano. I shall summarize them in order to complete my own observations.

1. The oil which floats on kiwi, when it is done, is a good remedy for headaches.

2. Salt, ground and drunk mixed with the urine of a small child, quiets stomach pains.

3. Rheumatism is doctored by applying on the ailing part a branch of ulala (Sankawina) from which the thorns have been removed and which has been heated.

/484 cont./

4. To stop dysentery, one must drink a decoction made of corn and watermelon seeds ground together.

5. Stitches in the side are treated by drinking a fragment of armadillo shell ground up and by rubbing the ailing place with a portion of this same calabash heated.

6. Tumors and swellings of the throat or knee are made to disappear by applying on the sore region the leaves of a shrub called urukuna, heated in a pot. Another herb (yundurimbiu) has the same virtue.

/485/ Urukuna leaves put in compresses on the skull dissipate headaches, protect one from congestion, and cure erysipelas. The leaves of yandipa (hediondilla) have all the virtues of urukuna.

7. Hemorrhages are stopped by means of latex or the roasted leaf of the liana supuapempe.

8. Kaa-upaya is an efficacious herb in cases of stomach ailments; and soto root cures pains in the feet (rheumatism?).

9. Guaya is a liana which cures any swelling in the side.

10. Goiter, rare among the Indians, is attributed by them to the sun. They treat it with tutía, a yellow fruit which reminds one of an apple, or by putting around the neck compresses of the blood of the gallinazo, carancho, or bandurria, kinds of vultures.

11. Ophthalmia or conjunctivitis is doctored with drops extracted from the bark of the algarrobillo or with the glue taken from the bud of the membiría plant. The leaves of yandi-wope are excellent for cases of ophthalmia.

12. A variety of caraguatá makes diarrhea stop.

13. The flower káa-ro (bitter herb) cures skin eruptions and is as good for malaria.

14. The herb inái (tooth of water) is a remedy against whooping cough, which can also be treated with an infusion made of boiled or roasted wasps and drunk warm.

15. Tingi bark attached around the belly is excellent for fighting dropsy, as are the leaves of the aśuru (palo de india), a tree reminiscent of laurel, or the herb kaa-paye, taken as an infusion.

164 /485 cont./

757 16. Gonorrhea is treated with the boiled root of the
824 mistol and tapir fat.

17. Earaches pass away if drops of chicken, beetle, and
● [237] cicada fat are poured into the auditory canal.

18. The root of chirimoya del monte (aratibu) is a good antidote if one feels poisoned.

752 19. Snake bites lose their seriousness if one applies some
824 of the herb uruuru, guaje, tobacco, or nicotine on the wound.

The sap of the liana isipo-poro-mboyi, although poisonous, nonetheless constitutes an excellent antidote for the same cases.

752 20. By putting melted wax on the wound, you do not risk
237 dying when a mad dog has bitten you.

21. Wounds produced by a sharp instrument heal if burned chicken feathers are spread on them.

757 22. It suffices for a woman to drink the powder of a shell in water to put her fallen uterus back in place.

/486/

757 23. The red leaves of the añankamisa, iwira-ro (quebracho
824 cacha) bark, the woody plant toba-pitše, taken as infusions, are as many remedies for fever.

[752] 24. Compresses of kaa-ruruntirái make abscesses burst.

25. In case of constipation it is good to drink the latex of the kaa-si (cardencha, lechetresna).

752 26. After any serious fall one must drink water in which
757 one has made an infusion of a sort of vervain (kaimberai)
824 pounded beforehand. The consequences of the shock will not be felt if one applies on the sore regions poultices made with this same plant carefully ground.

27. Recommended for spreading on sprains are cara guatá leaves or a thick glue obtained by boiling the bark of iwira-pitiyu-wasu. This substance is equally good for fractures.

757 28. The Chiriguano chew the bark of iwira-pitiyu-wasu to make
824 their violent toothaches stop and to make their teeth more solid.

29. A cataract is doctored in the following way: One boils kuruwa leaves and bathes the patient's head with this infusion.
[237] Then one takes the gall from the dorado fish with pincers or

/486 cont./

757 824 237 some similar object and rubs the sick person's eyes with it until the cataract comes off.

30. The tannin contained in kurupáî bark is a disinfectant which hastens the healing of wounds.

752 757 824 31. The leaves of kurupaîraî (small sébil), squeezed and put into compresses on a tumor, act in a lenitive way.

757 824 [302] 32. The plant wambero (kind of purslane) is a laxative. It has a scarlet flower which girls dry and pulverize to be able to color their cheeks red.

33. Iwowi bark, pounded and roasted, is a good remedy for any pain affecting the limbs. The ash taken from the pips of this [752] tree hastens the healing of wounds.

34. Powdered inái seeds make teeth fall out.

35. The root of the isipo-poro-mboyi, ground and kneaded with salt and tallow, is an emollient which is spread on tumors.

36. When they feel pains in the limbs, the Chiriguano apply on the ailing part a poultice made of iva-wasu roots, crushed and roasted.

37. The seeds of the yandi-wasu, taken in doses of two or three, are a good emetic.

38. The sarái is a tree reminiscent of our walnut tree. Its inner bark yields a powder which is spread on skin eruptions.

39. A climbing plant called kaa-ruwa is supposed to have medicinal properties. /487/ It is taken in the form of an infusion, or poultices are made with it after it is pounded.

40. Another climbing plant, the kaa-tai (barba de chivato) is a very active caustic which can produce burns if the compresses made with its flowers, leaves, and twigs ground together and mixed with water are kept on too long. If the hands are rubbed with this plant, they become numb.

41. The roots of the shrub mboipina, well cooked, yield a broth which combats atrophy.

757 825 42. A species of bug (tambeyùa) is used in the native pharmacopoeia as a caustic.

757 271 43. The Chiriguano have great faith in the virtue of hot water. Every sick Indian has beside him a small vessel the size of an egg, full of hot water. Those who are attending him

/28 cont./

139 There is another small caraguata which invades wide areas
824 of land, preventing any animal from entering there, because
it has spines on the bottoms of the leaves. In times of scarcity
[262] its root is food for the poor Chiriguano; the root contains a
little starch which has the taste of mandioca, but it requires
[283] great effort to pull it up. The leaf of this tilandsia is also good for making cord.

Finally, there is a third one which flourishes abundantly in trees and on the rocks of the hills, but which has no peculiar properties; it is large because of its leaves, which measure up to one meter in length. The plant is thick, the leaf fleshy, and it is used to decorate the streets with arches during processions. The aloe is similar to the second type of tilandsia, but aloe leaves are wide and thick, full of juice, while those of the tilandsia are slender, arched, and dry. The aloe is not abundant; only an occasional shrub or plant is found.

244 /29/ TOMATO. -- This plant which produces fruits so pleasant and useful to the culinary art flourishes exuberantly in these lands; the fruit from each plant is abundant and is produced the year round when some care is taken to protect the plant from the cold or from the light frosts which customarily
[237] fall in June and July. To do this it suffices to pile up dry cow dung in two or three places in the tomato patch and set them
[177] afire. True tomato plants are also found in the woods, but it is presumed that some bird must have carried the seed to such places; the tomato is a plant which has been brought into the Chiriguano country, as is the case with the onion, the sweet potato, and the cabbage.

222 In the woods there is a kind of tomato in the wild state, which is somewhat similar in appearance and taste, but which is quite different from the true one; it is picked green and allowed to ripen in a room on top of a piece of wood; in a
[244] few days it turns red, which is a sign that it is ripe. The chili pepper also produces abundantly and with little care; it is a plant which lasts up to three years if care is taken to prune it, and the second and third years the fruits are very hot. Another kind of small, round chili pepper abounds in the woods and bears spontaneously; it is called arivivi by the whites and "quii rai" by the Chiriguano. It is hot, and some cure sickness,

/33/

*136 *825 The large armadillo is slightly less than one vara long; its burrow corresponds to its size and even more, and not infrequently the wild boar or peccary, when chased by hunters and dogs, finds a safe refuge in these holes. The meat of the large armadillo is not so good for civilized people, but that of the others is; I have eaten it many times. The fat softens the tumors and gristle in it. Armadillos feed on worms. [241] Nevertheless, the true armadillo is harmful to the maize fields when they are newly planted, because it searches out and eats the seeds; it is also very harmful in melon patches, of which it scarcely leaves a slender shred; when it gets into the [224] melons, it does not allow any to ripen. The Indians know well where the armadillo abounds; as soon as they finish planting the maize, on nights with a moon or without it, they go there and, helped by hunting dogs, kill them.

COBAYO /guinea pig/. -- This little animal is innocuous and plentiful everywhere. Its places are the fences, where it [262] hides with ease. It is similar to large rats without a tail; [237] its meat is very tasty, and bags in which smokers store tobacco, tinder, and flint are made from its skin. When it sees a hunter [224] or believes that danger is near, it hastens to hide in the thickness of the fences, but when the hunter hides, it is not long in coming out again in search of food, morning and evening, and then it is easy to kill with arrow or shotgun. The Chiriguano call it [231] "Aperea." There is another sort of multicolored guinea pig of the same size as the previous one, but this one is domesticated. The color of the true guinea pig is light brown.

CONEJO /rabbit/. A quadruped in the wild state, native to America, it is the size of a large cat. Its color is a shaded [224] white, and here there are none of any other color, but there [262] are in other parts of South America; its meat is delicious, and the Indians like it and hunt it; its form is the same as that of the domestic rabbit, and in the Chiriguano language it is called "Tapiti."

/37 cont./

*136 *825 [237] [757] Tamandua meat is rather strong; it smells of ants, and they use its hide for their beds. This, that is, the leather, is medicinal when applied to the hips when they ache; it cures quite rapidly. It is called "Tami."

*136 TIGRE /jaguar/. -- Here we have the animal which is the king of the forests in the Chiriguano region /38/ and elsewhere. A fearsome animal because of its strength, speed, and cunning, fearsome because of its fangs and claws, fearsome, in fine, because it will resolutely attack every animal when it is hungry or is pursued and wounded. This king of the forest walks, runs, and leaps, climbs trees, scales cliffs, or crosses rivers, as circumstances dictate, for its own preservation. Wild and domestic animals, small and large, birds and reptiles, and the very fish flee and hide from the sight of this ferocious beast; man himself is often left the victim of its claws and fangs, and one experience is sufficient for it to continue attacking man. If the jaguar starts on calves, generally these are its daily diet; if it tries the meat of the ass, this will be its lunch, its supper, and its everything. Only with the bull, when it pits its strength against this powerful animal, does it always get the worst of it.

When the jaguar takes possession of a region and begins to fell cattle, horses, or burros, it is necessary to kill it or drive it away by pursuit, because it is so bold that it will fearlessly enter corrals near houses and kill the calves that it wants, being content with sucking their blood, but should it not have time for so much, it will pick up the first one and carry it off a short distance and calmly have its way. It seems that this animal knows the dominion it holds over the rest, including man himself. Should one meet it on any road, it does not flee, but calmly continues on its way, and then prudence dictates that the man stop, not be afraid, and speak loudly, and then the animal will go off into the woods; I have had this experience and others the same, but should one not behave in this way and is without weapons and good dogs, he exposes himself to being its victim.

The Indians call it "Yagua," and it is the jaguar of Spanish-speaking people; similar to the panther, it is not the

/43 cont./

*136 There are wasps, and they are of several classes, but the yellow or red ones are the most vicious; there are bees in the trees, in the roofs, in the walls, and in the ground, and all of them make hives in order to make honey and wax, but the best honey is that of the bees called señoritas. Both things, that is, honey and wax, are known as beneficial by the Indians, but they devote themselves to this very little, because they consider it the work of lowly and poor people, and the Chiriguano does not like to consider himself such. Wax is seldom gathered, even in times of scarcity, nor does the neophyte or new Christian work at earning his living by looking for beeswax.

222 237 [461] 237 464

*136 *825 [959] A spider bite almost always produces bad consequences, which can be avoided by the use of ammonia; this is another plentiful insect. In the rainy season they extend their webs from one tree to another, obstructing the road, no matter how wide it may be, and frequently travelers who are out at night or who get up early are bothered by these webs, which stick to their faces and clothing, /44/ just as the spiders themselves, which are so loathsome, not infrequently catch hold. The bite of those that live in the forest, they state, is not poisonous.

[859] All spiders are called "Yanduti" in Chiriguano, and the web, "Yanduti nupa," or spider's bed; from the web of the forest spiders the children make nets for catching birds or for their games. When wet they are quite elastic. The true tarantula, which the whites call apasanca and the Indians "Yanduti huasu," is quite ugly because of its fuzz, eight legs, and two arms. The natives state that it is poisonous, but its bite is not fatal. They almost never come out by twos, but upon killing one and wanting to know if it has a companion, it is enough to burn the dead one in order to cause the live one to come out the moment it smells the odor. The apasancas, or tarantulas, come out when it is about to rain and do not make a good impression. The natural enemy of spiders, including the tarantula, is another flying insect the size of an acorn, which the people of Santa Cruz call

239
293

Picture of the Yandugua or Parasol

/51 cont./

*13
*825
[262
[232
[293
[757

Its meat is excellent, and I have eaten it on numerous occasions. The Indians go to hunt the ostrich to prepare for their bacchanalias; they trade their feathers or keep them, and with five of them make the "Yandugua," a kind of parasol of which I shall speak in its place. The fat is a most efficaceous remedy for the side, rheumatism, and ailments of the hips in men and animals, for coldness of the members, and for removing thorns by anointing with it the part opposite the place where the thorn has penetrated.

BANDURRIA. -- This is a bird which the Indians call "Toté" because this is the sound of its song. It has a long beak, long red legs, red and ash-colored feathers, /52/ and a long neck. It feeds on little worms and insects and is generally found in open fields and banks of rivers and lakes. The meat is like that of guinea fowl, but very tough, although if the outer skin is taken off before boiling or roasting it, it can be cooked easily.

The bandurria resembles the crane somewhat, but it is stationary, abounds everywhere, and is not solitary, but neither do they gather together much. A flock is composed at the most of some 12 or 15, and frequently one finds a single pair. If one of these is caught, its companion will fly away immediately, but will come back two or three times to find out what has happened. In this way it is easy for the hunter to kill both. The bandurria has a highly developed instinct, and when the hunter approaches, it quickly flies. When there are many, they fly like cranes, with one out in front to break the air. They do not fly very high and generally sleep in a hole in the rocks, where it is easy to hunt them after sunset.

BUHO /owl/. -- This is a large nocturnal bird like a condor and whitish in color; there are two kinds, the second is smaller and black, ash-gray with a white collar; the Chiriguano call the first one "Yancuruntu," because when it sings it seems to articulate this word. The female of the Yancuruntu answers "Yaparapití," which in Spanish means "matemos" /let us kill/, from which the whites are inclined to jump to conclusions and start rumors that the Chiriguano are thinking about an

*825 /55cont./
757 and not those veterans of several arrobas like gourds in the form of saddlebags, which are seen in abundance around Pozuelos, Piray, San Juan, and Pomabamba.

*136 There is another large bird with the same instincts as the
*825 buzzard, called carcancho by the whites and "Caracara" by the Indians. It does not, however, kill calves; it does hunt and kill little lambs, suckling pigs, and chickens, disregarding with boldness and dissimulation the brood hen. /56/ This shameless, fearless bird is abundant everywhere and is capable of getting into kitchens and sticking its beak into the ollas; but its favorite spot is the corral, where it scratches about, looks for things, and eats, and like the most natural thing in the world it will pull out the entrails of a sleeping lamb or at the least blind it in one eye. The rascal gets into the nests of smaller birds and steals eggs or kills the young to eat them. All in all, it is a sad and ugly neighbor, with the result that all are its enemies, and some birds chase it out of their nests. Such is the practice of the bird that the Chiriguano call "Guirapipasa"; another called "Suiriri" gets on the shoulders of the carcancho and pecks it until it runs long distances.

[759] The Indians assert that carcancho fat is an efficacious remedy for the vision, and that they used it before modern medicines, which turned out to be more efficaceous and
[262] active, were introduced. They eat its meat if it is fat. The
● [237] feathers of the carcancho and the buzzard are very strong, and
[411] they put them on the ends of their arrows, so that they will not turn aside when they are shot and consequently will hit the mark better.

*136 GOLONDRINA /swallow/. -- The heat is altogether too
[132] much at certain times of the year, with the thermometer in the shade up to 32° and in the sun up to 60°, but let it not be believed that this state of heat is the normal thing. There are months of the year, and in these months there are weeks and days, in which it is difficult to endure the cold, which is most intense in June and parts or all of July. As a result of this, the swallow, even here, is a pilgrim, emigrating at the end of April and returning at the beginning of October. There are some entirely black, and there are some with white breasts. The

/180 cont./

352 The peculiarity of the Chiriguano cots is that they are almost always shorter than the persons who must sleep on it; most of them measure one meter 60 centimeters. They perhaps have [513] this peculiarity because they sleep curled up like pigs in order to hold together better the little clothing or blankets that they [178] possess. Today they are beginning to make them longer and to have cots like the whites use; the open part of the latter [237] is closed with cowhides which they attach first lengthwise and then at the sides, equidistantly about every seven or eight centimeters, with many small squares being the result (1).

1. The cots which are made with split agave sticks are soft and preferred; in the Ivu Mission almost all make them of this material.

574 The Chiriguano man does not like to sit on the ground either;
576 when he is visiting, it would be an insult to make a man sit on
516 the ground; nevertheless for a gathering of friends they do sit
352 down where they wish and stretch out like dogs in the sun. For
322 the reception of visitors they have crude seats. They are of
[574] wood and called Apica. There are some with two places and up to four with their respective dividers; there are some for [412] men and even for children. They are of a single piece, and they are made by dint of much patience by hollowing them out with an ax. The tree should be a thick one so that the seat may have a little height and the occupant may not cut a ridiculous figure of a punchinello or clown, causing laughter [438] among the onlookers. They also use benches and chairs like [439] those of the whites; they make the latter for their own use [824] and to sell to their fellows and to the whites. The wood which they seek out for these labors is zacharrosa, because it is soft and easily worked with the tools that are available to the poor Chiriguano, who does not always have an adze and a chisel.
352 Some people also have /181/ hammocks, Quiha ó inni, but they are so old and black because of the action of the smoke that they arouse disgust (1).

524 1. For a children's game they hang in the

/181 cont./
462 bulls, deer, etc. If all this carving were woman's work, it
415 would have but one name, Sacuarama, but since it is man's
531 work, each figure has the name of the quadruped, biped, or reptile that it represents (2).

[825] 2. Thus they say Machuru haangaño, figure of a lizard, Yaimba haangaño, figure of a dog. Even the men call the figure of a jaguar or a dove: Sacuarama.

/182/ With this second task the work can be considered finished. Days or weeks are employed depending on the greater or lesser quantities of the matés. They now color all the
[386] etched figures with ground charcoal and paint the empty spaces
[237] with Urucú, achiote, making them firm with the Taragüirisi, which is abundant everywhere, then singeing them in the flame of the fire so that the pictures will never lose their shine and luster or the painting of carbon and urucú come off (1).

• 237
323
825 1. The Taragüirisi is a species of ant which is common in cold weather. Its length is not over half a centimeter and its thickness three. It moves about the small branches of certain small trees, where it leaves its speckled whitish excrement. All potters provide themselves with an abundance of this material.

Pottery

323
[462] I shall now go on to consider women's work, limiting
[317] myself to the most important, such as clay vessels and textiles.
[484] For the former the Chiriguano woman provides herself beforehand with the best clay, which she knows very well and even brings from long distances, if it is not found in the territory of the tribe. Naturally the potter not only wishes to avoid the loss of her labor, but also, insofar as she can, she wishes to

/183 cont./
323 size, which they /184/ call Itaisi, with which the polishing of the pieces is completed (1).

1. The operations which they also perform with the shell and with the stone are for the purpose of giving fineness to the vessels and of closing any chinks.

[824] When they leave the piece which has been begun, they cover it with leaves of the Causíro, palma Christi, and at the time when they begin it again they dampen the edges with a small rag. This rag serves also for dampening the piece before polishing it with any of the above-mentioned tools. When it is finished and before it has been exposed to the air very long, they polish it with the Itaisi, and, when it is quite dry they fire it if it is not to have pictures on it.

531 [192] Every painted piece of pottery is called Sacuarama. The paintings are white, black, and red. The white is called Tovanti, the black Itau, and the red Itaurucu. They grind [237] up the three colors separately, dissolve them in water, and apply them with a slender feather from a chicken or other bird. The figures are varied; those of trees, animals, and men are rare; they are lines, unintelligible groupings. Without knowing it themselves, they follow a general system, and some of them make fine pieces, especially for storing water.

323 [843] In order to fire them they select a still day, and a big piece is carried to the forest, because there is plenty of firewood there and also to avoid having pregnant women coming close to watch, because their presence, according to what they [237] say, would make the vessel break. They pile firewood around it and light it, taking care that the fire does not go out before it is burning well; sometimes instead of firewood they also use dry cow-manure, and it seems that this is very good for even- [237] ness of the baking. If the pot has paintings, they let it cool a little when they take it out of the fire and then quickly pass over the pictures the excrement of the Taragüirisi, which melts with

/184 cont./

323 the force of the heat and remains over the paintings like a
[237] binder, without which they would disappear the first time it was used. The Taragüirisi remains on the vessels like a light coat of rubber and the white of the Tovanti becomes opaque (2).

2. When a pot is slightly damaged, they heat it in the fire and on the inside and outside apply the Taragüirisi, and it is as good as before.

/185/ Textiles

286 Another important occupation of the Chiriguano woman
462 is weaving the Asoya for her husband, brother, or son, and the
[294] Cutama for herself. For this she prepares the wool or cotton, spins it opposite the way the mestizo and European women spin, and then bleaches it and finally dyes it.

286 In order to weave, they set up two tall, slender forked sticks in the house, with two sticks across, one above and one below, and arrange or place the threads vertically, and then sit on the ground and begin to run the woof through, thread by thread, which they hit with a pointed stick of soto wood called Piuca. This, to be sure, is time consuming, if the threads are fine, but, on the other hand, the work is very durable.

291 Ponchos, Asoya, are of two types, one of wool and one
286 of cotton; the first are common from the right bank of the
231 Parapiti River southward and the second from the left bank
249 northward, because in the first region sheep are plentiful, and
[184] in the second, cotton fields. Formerly, before the whites intro-
[177] duced cattle into the region, cotton was cultivated everywhere, and from its product the men were dressed for ceremonies in their Tíru and the women in the Mandu, which I shall discuss in the following chapter.

/219 cont./

868 to his mother with satisfaction and then tells his companions about it.

/220/ There are also men who teach boys the way to be quick in fights and even the way to dodge enemy arrows, as well as bullets. The man who teaches this is called Puruncanise, or man who scratches. He is the terror of the boys in the town where he lives. The method he uses is to run after the boys, and woe to the one who out of weakness or carelessness lets himself be caught! In the hands of the puruncanise he suffers the martyrdom of being scratched all over his body with long fingernails, which he lets grow on purpose, in addition to the blame he gets for letting himself be caught by an old man. In a second race it is not likely that the boy being taught will let himself be caught (1).

868 856 239

1. Those who are older have the calf of the leg scratched with the tooth of the Acuti /agouti/ by another of the art. A lot of blood comes out of this, and upon recovering, they say that they are very good at running and can resist fatigue much more than those who did not allow themselves to be scratched.

882 When all the boys of the tribe have received practical lessons from such a neighbor, they indeed may be ready for war, because skill consists in knowing how to shoot in order to injure and also how to dodge the enemy arrow. The Indians [554] who know such strategy are called Queremba by their companions.

721 726 797 In the last war of Curuyuqui, the Indians attacked the Santa Rosa Mission while Colonel don Tomás Frías was there. He chose as a target an Indian Queremba who seemed to be the chief of the company and lost some eight or ten bullets without having the pleasure of felling him. Almost all the Indians learn this way of fighting; hence their combats do not last long. That of Curuyuqui lasted eight hours because they were sheltered in trenches.

/239 cont./

Old Method of Farming

241 In planting the fields which are already old, they use the same method of applying fire to the weeds and stubble that are left after the harvest; this method is even coming to be practiced by the whites and the mestizos. As far as fertilizing the land, the Chiriguano does not worry about it, because the lands are virgin and the Indian hardly plants maize on a large scale, and, if it rains regularly until the grain has become hard, the crop is abundant and the farmer has enough to eat and an abundance of chicha to drink, which is what he wants.

412 Formerly the ava had nothing but a wooden shovel and a stone ax, which is hard to find today. He obtained his livelihood with these insignificant tools; the ax served him for cutting trees and bushes and the spade for pulling up all the grass and brush. The spade was like those used by bakers for [824] putting bread in the oven; it was of soto wood and was at- [239] tached to a rather long handle with bejuco vines or strips of toborochi bark; the handle was always long, because the Indian /240/ neither knew nor does he now know how to bend his back at his farm chores; these spades were also made from the shoulder blade of cattle, horses, or asses (1).

000

1. Baron don Erland Nordenskiold, in addition to the pots from various regions of Bolivia, sent to the Swedish museum pots made by the Chiriguano, wooden spades, and stone axes.

241 Planting was usually done in the month of November, [221] after the ground had received at least two rains. Then the Indian would first destroy with his spade the small amount of grass that had come up, and then he would notify his friends and relatives so that they might help him to plant on [476] the day indicated. The cacique took part in the general [534] planting, ordering that those under him should help one another; thus, early on the said day, at daybreak, they would

/274 cont./

Offensive War and Weapons

643 When a tribe was preparing to attack another, if it foresaw
701 that it would last longer than usual, and the cacique judged that
705 more preparations were required, in his position as supreme chief or captain general he would commission subalterns called Queremba, experts, to inspect all the armament available, and if the report of these chiefs was not satisfactory, a general order was given to make up and repair all the deficiencies as quickly as possible.

411 The bows and arrows were made in the public plaza or out-
824 side each house; the wood which was to serve for bows was different from that for arrows. War bows measured /275/ a meter
[283] and a half more or less, and to shoot one they used a twisted cord made of pygmy-deer hide, which was both light and strong. The wood that they use even today for hunting bows is called Igũirapitiragua.

The arrows are made of different kinds of wood, but the most common are Ovei, guayancansillo /a kind of guaicum/, Yaguasíi, tola, and Igũirane, smelly wood. This last is very poisonous, and the tribe that uses it must be a very bad enemy of his opponent, because whoever is wounded with these arrows will recover only with difficulty, and the wound is a continual suppuration of illness, which slowly consumes him, almost without any hope of his being able to be helped and to enjoy life once more with his companions.

Every arrow ends in a point, and on both sides it has its edges the opposite way so that when it enters the flesh it is difficult to remove, and one who does not know how to remove it can produce a greater wound than the one the arrow made when it entered.
[283] The arrow is inserted into a little piece of hollow cane, one
[239] meter long, where it is securely attached with string made of toborochí bark, and the string is covered with a little bit of wax (1).

1. At the end of the cane, with the same string and wax, many attach a feather of a falcon or of a carcancho, not for decoration, but so that the shot may be more accurate. The feathers of these birds are more resistant than others.

164 /286 cont./ From this and other causes come the many sick
757 diseases which do not let them sleep. The itch is cured with salt-
peter found in the dry stream beds. They call it Curuyuqui, or
salt for curing the itch. but this remedy does not always produce
its effect. The itch principally attacks those of few years. and
• [237] nursing infants catch it from their mothers. Lepers are cured very
efficaciously by means of hot cow dung. and it is enough to apply
it two or three times for a cure within three days without any
further remedy. but they do not resign themselves easily to using
this repugnant but efficacious remedy.

164 Smallpox and measles are epidemics which appear from
time to time: for this reason I do not put them in the list of endemic
diseases like the former ones. The Chiriguano runs from smallpox
as a person with hydrophobia does from water, since through ex-
perience he knows that anyone who gets it has a hard time being
saved from a horrible death. When it enters a town, it sows fear
and desolation. Sick people resign themselves to death, and the
healthy ones flee in terror to other tribes. It seems that it is not
easy to attack smallpox directly, and up to now only vaccination
has better effects (2).

797 2. When smallpox breaks out, the missionaries
164 go wherever their ministry is needed, like
doctors and priests. Up to now none of them
has caught it, perhaps because they are
vaccinated or because they have different blood.

In 1909 the town of Cuevo, which is about eight kilometers
from Yvu, was decimated by smallpox. I vaccinated all the
people of Yvu and those who were not residents there. But the
vaccine did not take in all of them, as occasionally happens.
Nevertheless, few got sick and only two died. The remedy that
I administered after the initial fever had begun was rather strong
wine vinegar. The sickness ran its course only in those who had
not drunk the /287/ vinegar or who had not been able to retain it
in the stomach. I administered one cup every six hours three
times, and it was enough for this terrible illness, which would
cause so many deaths in Cuevo, to pass almost unperceived in
the San Buenaventura Mission (1).

1. More people became sick and died in the

Schwedenmuseum E-4,5(1909-1998, 1913) 1801
#10 Chiriguano #11
Chaco #9

received from their kinsfolk at Mojos, or they may even have brought it with them when they migrated to their present abode. Nowadays the Chiriguano and Chané commonly use chairs of the type they have learned from the whites. They are made by themselves in the missions.

I have a reed mat from the Chané. Both the Chiriguano and the Chané have skin mats. I have already spoken of such mats in Part I of this work. The skin mat is naturally a southern culture-element.

The Chiriguano and Chané keep their belongings either hung from the ceiling or else on the floor. Clothes and other fragile things are often kept in large earthen vessels — a method of keeping one's belongings which I have not seen anywhere else. Cruz[1]) says that the Incas kept their clothes in a similar way.

It is very common among the Chiriguano and Chané to fix wooden hooks in the roof of their huts on which to hang their belongings (Fig. 4). Elsewhere I have only seen these hooks among the Chorotes. In the Gothenburg Museum there is a collection by Lehmann-Nitsche and Tavera of hooks made by Indian tribes on the Rio Negro. The only mention of them that I am aware of in literature on the subject is from the Araucanians.[2]) Small articles of this kind are, of course, easily overlooked, wherefore it is not at present possible to draw a map of their distribution. This is to be regretted, as the distribution of such small objects would offer points of great interest. It seems to me not unlikely that the wooden hook is an Andine culture-element. Within my sphere of work the hook does not occur among other Indians than those mentioned here.

Small articles are kept by the Chiriguano and Chané in cloth and leather bags, wooden boxes, baskets, armadillo scales, the scrotum of bulls, and in calabashes with or without lids.

[1]) Cruz Vol. 2, P. 171.
[2]) Lehmann III P. 358.

[Text continues on P. 222]

Ethnographisches Museum Berlin-Dahlem, Arnimallee 27
SP 14 Chirigouano SP 33
Chané SP 9

C
Ce
953
415

I have not seen wooden bowls anywhere else, and scarcely think they are genuinely Indian. I shall return to the subject of baskets.

C
Ce
915
237
a 171

Except among the Chirigouano and the Chané, I have only seen the scales of the armadillo used as bowls among the Mataco, and there only as a curiosity. They are, however, known from the Guyaquil[1]), from the Indians of Rosario[2]) and from Indians in N. W. Brazil[3]). The neat baskets of armadillo scales which are sold in the curiosity-shops of Buenos Aires probably hail from Paraguay, and it is not impossible that here, too, we have to do with an original Indian idea.

Ce
237
278
415

The fat of various animals which is used for healing is usually kept by the Chirigouano and Chané in shells,especially those of the *Aetosa oblongus*.

I shall return to the subject of calabashes.

C
352

Fig. 3. Bowl of wood from the Chirigouano. C. M. 03. 1. 178. 1/3

C
962

Fig. 4. Wooden bowl. Chirigouano. B. M. 0. —. 1/3

1) Erwähnt Sig. 03
2) C. M.
3) Rivière-Cartaxenne (d)

Smithsonian Misc. Coll. 57-64 (1909-1909, 1912) 1910
NP10 Chiriguano NP10
Chané NP8

C
Ce
534
217

Flutes of several kinds are found among the Chiriguano and Chané, and they are here depicted. They are always made of reeds and never of bone (fig. 36).

C
Ce
534
177
N[illegible]

Some of the Chiriguano and Chané flutes are not genuinely Indian. This is evidently the case with side-blown flutes with six carefully fitted holes. The like are not found among outlying tribes, nor, what is very important, have they been found in old excavations on the coast of Peru. No such flute is found among the 26 flutes depicted by MEAD from the coast of Peru. Nor are flutes of this kind found among the Chorotí and Ashluslay. All the old Peruvian flutes are blown from the end, and the holes seem to be placed very arbitrarily. I have in my collections side-blown flutes from the Yuracáre, Chimáne, Itonama, Cavina, and Tapiete as well as from the Chiriguano and Chané. They are also found among the Caingué. Everywhere they have six holes.[1] They are never found among absolutely outlying tribes. End-blown flutes are undoubtedly pre-Columbian. All the flutes from the Peruvian coast described by MEAD are end-blown flutes. Three of them are made of reed, one of a calabash, the others of bone. Various kinds of end-blown flutes are very widely distributed in S. America. I have such flutes from the Chiriguano, Chané, Matacu, Toba, Tapiete, Ashluslay, Chorotí, Yuracáre, and Huasí.

---

[1] A flute of this kind is called by the Chané «dóna». Speaking of the Quichua musical instruments CIEZA says (IV. P. 118) «Quena — quena es una caña sola como flauta para cantar o dedichas.» The Cavina call a dance at which they play with flutes and drums «dena-lema». (FORSTEMANN (111 P. 480.) CIEZA, when mentioning the Quichua musical instruments, says that they, and especially the mestizos, have their small flutes which they call «quena». ... (P. 178). I presume that the Chané took over from the mestizos not only the side-blown flute but also its name «quena» which the latter in their turn had obtained from the Quichua language. How the Quichua came to apply the word «quena» to a musical instrument which was originally unknown to them, I do not know.

S:Nordenskiöld E-5,4(1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chane SF8

As I said in Part I the flutes in different parts of S. America are too little known for me to venture to express any opinion as to the source whence the Chiriguano and Chané got the end-blown flute.

Both the Chiriguano and Chané possess trumpets made of cowhorn. From the former I also have an old trumpet made from a calabash (Fig. 37 B) which I acquired at Caipipendi. I do not know whether this was ever provided with a mouthpiece. The Chané Indians have on their cowhorns mouthpieces of reed with lips (See Fig. 50. Part I). I have not seen these mouthpieces among the Chiriguano; they blow the cowhorns from the end without a mouthpiece. Most likely the Indians learned from the Whites to use mouthpieces of the aforementioned type.

Trumpets are very wide-spread in S. America, and it is interesting to notice the distribution of trumpets blown from the side and those blown from the end. The pre-Columbian date of the latter is certain, while that of the former is very doubtful. Map 10 indicates the distribution of these two types of trumpet.

Thus we see that side-blown trumpets occur especially in the basin of the Amazon,[1]) in the region where negro influence has been and is very great, and I do not think it impossible that the Indians have learnt to use such trumpets from the negroes. When negro slaves were brought to S. America, they naturally introduced many African ideas. Runaway slaves frequently sought refuge among the Indians. In Matto Grosso, for instance, it is probable that negroes had been in touch with Indians who had not yet seen Whites. From them the Indians would be able to learn a good deal.

When making a trumpet of an antelope horn or the tusk of an elephant, it is quite natural to make a hole in the

[text continues on p. 122]

[1]) From civilized Indians at Tupiza in Bolivia CHERVIN mentions side-blown trumpets which, it is quite certain, were introduced by the Whites at a late date.

5:Nordenskiöld E-5 (1908-1909, 1913) 1920
SF10 Chiriguano SF10

Bush Negroes SR8

C
534
237
531
B
534

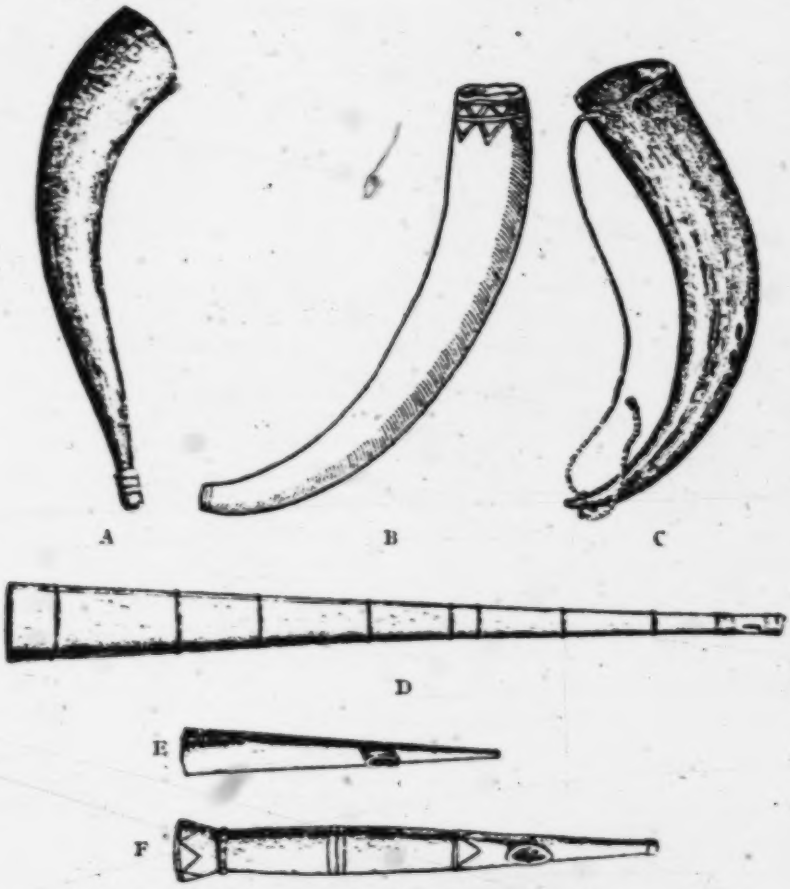


Fig. 37. A. End-blown trumpet made of cowhorn. Chiriguano. R. M. E. 97. 1/5.

B. End-blown-trumpet made from a calabash. Chiriguano. R. M. E. 511. 1/6

C. Side-blown trumpet made of cowhorn. British Guiana. Collection of LILJEWALCH—THULIN. G. M. 12. 1. 50. 1/6.

D. Side-blown trumpet made of wood. Parentintin(?), Brazil. R. M.

E. Side-blown trumpet made of tin-plate. Bush-negroes. Surinam. Collection of BARON KLINCKOWSTRÖM. R. M. K. 204. 1/6.

F. Side-blown trumpet made of wood. Bushnegroes. Surinam. Collection of KLINCKOWSTRÖM. R. M. K. 69. 1/6.

StNordenskiöld E-5,V(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

C Ce 415 *171 [252] Only a few vessels are provided with ~~spouts~~ lips in rims which here seem to be an idea obtained by the Indians from the Whites.

Bowls with holes in the bottom which are used for steaming have already been mentioned in the foregoing. This applies also to bowls for the roasting of maize.

The Chané on the Rio Parapiti have small plates which they sometimes use in spinning. I have not seen the like elsewhere. Occasionally one sees, among the most civilized C Ce [117] Chiriguano and Chané, fire-pans for holding hot water. (Fig. 43,21). They must have obtained the idea from the Whites.

C Ce 323 The Chiriguano and Chané understand the art of painting earthenware before burning.[1]) I have already, in Part I, endeavoured to show the geographical distribution of this invention. Whether it was known to the Chané and Chiriguano before they settled in this tract cannot be decided. The pottery I found in the archaeological excavations at Caipipendi is unpainted.

C Ce [184] The Chané at Rio Itiyuro sometimes paint the edge of earthen vessels after burning with resin of palo santo. This is never seen among the Chiriguano and the Chané at Rio Parapiti. As such painting is common among several tribes in the Chaco, it is possible that the Chané at Rio Itiyuro got the idea from there. The Chiriguano and the Chané at Rio Itiyuro often varnish the painted vessels after burning with a kind of gum called by the Chiriguano — staragüirisi.

The Chiriguano and Chané also ornament their earthenware by finger-impressions. This method of ornamentation has an eastern extension in S. America. A map showing its distribution is published in Part I.

The ornamentation painted on earthenware is seen in the illustrations. The Chané at Rio Parapiti usually have very plain ornamentation.

C Ce [237]

[1]) For this purpose brushes of Aruti hair are used. (See also Wiener P. 82).

2/A [erratum corrected, see errata sheet p. 245.]

S:Nordenskiöld E-5 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

C
Ce
415
531
184

This contrasts with the Chiriguano and the Chané at Rio Itiyuro and is certainly owing to the poverty of the first-mentioned.

C
Ce
415
482

Sometimes the Chiriguano and Chané calabashes are surrounded by a net for greater convenience of carrying. I have already dealt with these in the foregoing.

C
Ce
415
824
[237]
[171]

The stoppers of calabash-bottles are generally pieces of empty corn-cobs. These are now and then used also as stoppers for earthen-vessels. The Choroti and Ashluslay, as a rule, make use of wax, which material is little used by the Chiriguano and Chané.

C
415
531
532

Fig. 51. Calabash. Chiriguano. R. M. 323. 1/6.

Ee /216 cont./
754 They also sometimes believe that they are bewitched by the
177 Indians. A colonist, Gutierrez, flogged an Indian. The latter bewitched him, so that he became ill. Inside his stomach it sounded like the croaking of a frog.

C Ce The medicine men try to discover the bewitcher with smoke.
755 I did not see how this was done. The bewitcher, if he or she is
754 discovered, is killed.

000 /217/ In the following I shall speak about the connection of the medicine men with the great spirits.

Ee There seems to be no difference in the appearance and
755 the method of the medicine men among the Choroti and
756 Ashluslay and among the Chané and Chiriguano. It is the same sucking out of foreign objects that have entered the body through
[7] Ce bewitchment. Among the latter the medicine men are more
[177] secretive than among the former. Perhaps their contact with the whites has had the effect that they themselves are beginning to doubt their art.

Ee There is a difference, however, in the common remedies.
757 The first-named Indian tribes obtain their remedies, as a rule,
[171] from the vegetable kingdom. They boil decoctions of certain
Ee plants. The Chané and Chiriguano, on the other hand, except
●[237] for certain plants, use animal remedies. Thus, on the Rio
Ce Itiyuro, the Chané use the fat of herons for swellings, wild pig
757 fat for fever, jaguar fat for pains in the bones, and toucan beaks
237 for female hemorrhages. The Chané on the Rio Parapiti use the fat of the ostrich for chest pains, of the iguana lizard for conjunctivitis, of the chicken for everything, and maize beer for colds. I saw fat applied exclusively for external use.

Ce The Chané Indian is remarkable with regard to aseptic
752 treatment. I saw several times how they treat wounds in accordance with a most modern method, namely, with boiled water. This is different from the whites' use of pig excrement and the fresh urine of human beings, along with salt, for the same purpose. The reason that these Indians are familiar with such a modern
Ce method is undoubtedly their great cleanliness. They are used to
[515] washing themselves constantly. They probably hit upon the idea

C Ce 273 [412] [237]

The pots are stirred with large wooden spatulas /237 cont./ (Fig. 118a) or with shoulderblades provided with handles (Fig. 118b). It is the pride of every woman to brew good beer, "cangui," and much beer. Indeed, they are /238/ indefatigably busy. One sees them working all day, and even at night they are busy cooking and grinding. No family may refrain from making cangui.

The use of saliva may perhaps seem unsanitary. At first I thought this too, but soon I was so hardened that the cangui prepared with saliva-yeast in Indian fashion tasted better to me

Ce 273 415

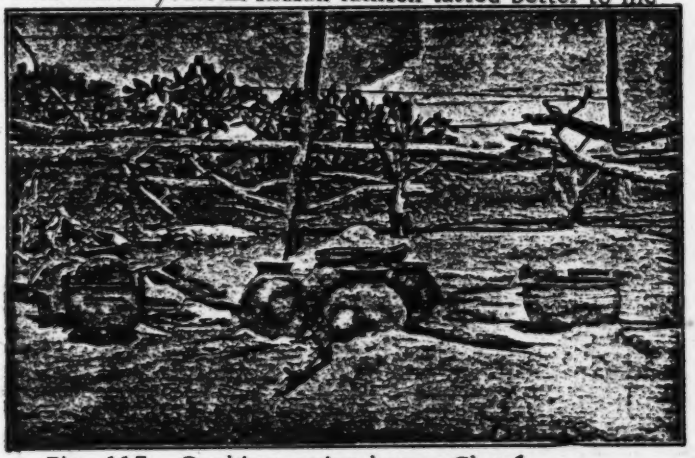


Fig. 117. Cooking maize beer. Chané. Rio Itiyuro.

C Ce 273

than that brewed by the whites in a civilized way.

Connoisseurs, not only Indians, are said to be of the same opinion as I. It is important, however, that the cangui be drunk cold; it is unpalatable lukewarm. When it has stood for a long time, it is somewhat intoxicating, but not as much so as algarroba beer.

C Ce 273 574 576

There is a great deal of ceremony connected with cangui drinking. In front, on benches and stools (Fig. 85), sit the men, and behind them, on the ground, the women. The older ladies are given the best places. The hostess brings in the cangui in her

/239 cont./ were used at their great festivals. In his opinion, the Chané used masks before the whites came to the country. /240/ In addition in those days they had around their legs rattles made out of fruits and on their heads feather ornaments of parrot feathers.

The Chiriguano and Chané always destroy the masks after the carnival. They are either burned or thrown into the river. The Chané call the masks "añañya."

It is strange what a great role the carnival now plays as a festival among the Indians. This undoubtedly comes from the fact that the whites distribute great quantities of spirits there and that the Indians who work for them are given a few days off at that time.

Guests often come from a great distance to the festivals. They appear there in their finest clothing and ornaments, freshly painted and nicely combed. Most of the old costumes and ornaments, however, have already disappeared. Nevertheless one still sees women in home-woven clothing with necklaces of chrysocolla and turquoise. I never saw used, however, the silver diadem and the silver pins which belong to the festive attire. One often sees the men's blue costumes (Fig. 81) with silver chest ornaments preserved in the huts by the old people, but they are not used for the festivals.

A B

Fig. 118. Soup spatulas. Chiriguano.
A = Tihuipa. 1/8.
B = Caipipendi. 1/6.

Among the Chané in the Itiyuro valley I saw the Indians dance at a cangui festival. Around a "yambuy" of cangui stood a few old men in twos, singing a monotonous song

352 [114] [171] [513] been imitated from the Europeans. The Chiriguano also sleep in hammocks made of cotton yarn, and on reed mats and skins spread on the ground. Stools for sitting on I have not observed among the Chiriguano. They do, however, possess such articles of furniture,[1] which, however, must be of 353 considerable rarity. Along the walls of the hut will be seen an orderly 415 [531] array of cooking and roasting pots, water pitchers, and pots for maize beer, arranged in rows, often of exceedingly beautiful shape and with painted decoration (figs. 217—225). From wooden hooks in the roof are hanging bunches of maize cobs, pumpkins or other foodstuffs; arrows, bows, and other gear. From the roof there are also suspended clay bowls (figs. 224 and 225), used as repositories for smaller articles of value. Clothing, ornaments, and such like, are also stored in large clay jars placed on the ground. As bowls there are also used the scaly skin of armadillos, and calabashes (fig. 226).

[352] → [291] [302] [411] [415] ← [237] [824] → 354 →

Fig. 194. Man and young woman. Chiriguano. San Luis. Bolivia. Photo. E. v. R.

Outside every hut there is, as I mentioned, a fireplace which is generally used for cooking the food, unless the weather makes this im- 356 possible. The huts, as well as the open spaces between them, are kept particularly neat and clean. They are swept every day, and the sweepings are burnt. The huts are practically always free from vermin.

291 [177] The Chiriguano men nowadays generally wear shirt and trousers of European cut (fig. 194). The poncho shirt is, however, still to be met with among this tribe[2], but only very rarely, and I have never personally

[1] Nordenskiöld (13), p. 163 and fig. 85 (12), pp. 15 and 16, and fig. 3.
[2] Nordenskiöld (12), p. 59.

/16 cont./

342 A special feature of Chiriguano houses and where they differ from those of the common ranchos of white residents is that the two oblique sides of the roof descend almost to the ground, passing far beyond the wall. Machareti houses also show this special feature. (Cf. Fig. 14 /see p.40/.) The result of this roof construction is that the entrance (ōkye) is on [285] the gable side. To shut the entrance they use reed mats or [237] cowhides (65). Widely influenced by the whites, the Chiriguano [177]

65. Métraux I, p. 469.

and the Chané continually vary the style of their houses, and, according to Nordenskiöld (66), today many of them are al-

66. Nord. 1, p. 173.

ready building houses identical with those of the whites.

343 In addition to the houses used for dwellings, the Chiriguano and some of the Chané have houses built on posts for storehouses (avatió). Also in Machareti such houses were commonly found beside the dwellings. Figure 16 /see p. 41 / shows such a [417] storehouse. A ladder, which consists of a post provided with notches, leads to the platform (on the right in the figure). These storehouses serve primarily as places to keep the maize crop and other produce. The space under the platform serves for storing various other things. Nordenskiöld saw such houses built on posts, whose upper part served in general for storage, while the lower part was utilized as a dwelling (67). Often those

67. Nord. 1, p. 175; Nord. 2, p. 3.

storehouses are near the plantings far from the dwellings (68).

68. Nord. 1, p. 173.

[335] As shown in Figure 16, the frame for these storehouses consists of ten vertical posts of different lengths, bifurcated at their upper ends to support the horizontal posts that form the base for

/22 cont./

352 513 [251] The Chiriguano generally sleeps on a kind of cot (catre), that is, a bed frame made of cane. Such beds, which in addition to their own purpose also serve for drying maize, have been represented in drawings by Eric v. Rosen (95), Erland

95. Eric v. Rosen, op. cit., p. 190.

[174] [178] v. Nordenskiöld (96), and Métraux (97). No doubt /23/ the

96. Nord. 2, Fig. 2.

97. Métraux 1, Fig. 125, p. 470.

cold climate of the region to which the Chiriguano had emigrated made them abandon the use of the hammock for sleeping, not very practical for such a climate, and replace it with the cot, which was already common among the tribes of those regions. Lacking a cot, the Chiriguano sleep on the ground. [232] [824] [126] [824] In that case they use for a bed large mats made of cane or palm leaves, or also hides (98). I acquired from the Chiriguano one

98. Nord. 1, p. 177. V. Rosen, op. cit., p. 200. Métraux 1, p. 470.

such mat plaited out of palm leaves (Fig. 95).

Chiriguano Mat (túpa) in the Collection

I. A. 540. Length 1.75 m. Width 1.50 m. (Fig. 95).

352 17 [126] In some Chiriguano houses I also saw wooden benches (apika), but unfortunately I could not acquire a specimen. Those benches in the form of a sled are very similar to the kind of benches that are very common among the Indians of Brazil (99) and those that we also know from the ancient

[113] 99. Carly /sic/ von den Steinen: Unter den

C
Ce /34 cont./
756 most other Indians of South America, there is a professional
171 physician who is charged with the treatment of the sick, this
treatment in most cases consisting of sorcery among these
C Indians too. The physician attempts to dispel the evil by
Ce sucking out foreign objects which have penetrated the body of
755 the bewitched sick person. In addition to such treatment,
757 remedies are used among the Chiriguano and Chané, which,
[824 in addition to those made of plant substances, include the
[239] fat of various animals applied externally for different illnesses.
Ce The Chané treat wounds with boiling water.
752

Burial among the Chiriguano and Chané who live outside
Ce the missions is generally still done in urns, according to
764 primordial custom. According to Nordenskiöld (149), the
415

149. Nord. 1, p. 208.

large pots in which chicha is prepared are also used as funeral urns, and another pot is used to close the urn. Often the dying person, even before being completely dead, or soon after death, is crammed into the urn in a squatting position. A calabash of water is placed with the dead person in the urn,
Ce which is buried within the house. Commonly the house, after
768 the burial, is abandoned for some time, but is occupied again
C later. Such a funeral urn of the Chiriguano of the Caipipendi
764 Valley is shown in a drawing by Erland Nordenskiöld (150).
415

150. Nord. 1, Fig. 113.

Up to half of the urn, which is provided with a cover, is disenterred. Nordenskiöld's statement that the Chiriguano use the same pots which serve for the preparation of meals as funeral urns is significant. From that we can deduce that a funeral urn found in other regions might also have served, during the lifetime of the dead person buried in it, some other purpose related to the economy of those Indians.

Chane SF8
Izozo

/41 cont./

C Ce 411 points, one Izozó specimen reaches a length of 1.07 m., and a Chiriguano specimen, a length of 1 m. This is the opposite of the observations that v. Rosen made about Chiriguano arrows, that they were as large or even larger than the bows.

C Ce [524] Without counting the Chiriguano arrows fitted with wire points, which no doubt are used only by children for shooting at fish or birds and which are often made with wooden shafts, Ce [249] [824] arrow shafts are universally made of cane, taken from the plant Arundo donax, which, as I have already mentioned above, is cultivated by the Chané of the Parapití River. Ac- Ce 41 [824] cording to Nordenskiöld, the Chané formerly also used the Ubá (Cymnerium sp.), which they call "chochio" (188). The

188. Nord. 2, p. 26.

arrows collected among the Izozó are provided with iron points. Nordenskiöld also shows in drawings Chané arrows fitted with wooden points in the form of a lancet or dentate (189).

189. Nord. 2, Fig. 6. A and C.

C Ce 411 Among the Chiriguano arrows in the collection, there are two fitted with iron points, one fitted with a dentate wooden point, one such wooden point without a shaft, and two arrows for bird hunting that are fitted with a club instead of a point. The Chiriguano arrows fitted with iron points correspond throughout to the Izozó ones with respect to form and material. C Ce [284] The iron point is joined to the shaft by means of a piece of split wood and a wrapping of cord made from special tree bark and fastened with wax. The lower end of the cane shaft has a groove over which the end of the arrow is also fastened by a wrapping of the same cord secured with wax.

C Ce 411 237 /42/ Some Chiriguano and Izozó arrows have feathering, others do not. While the feathering was lost on some of the arrows that do not have it now, as can be discerned from the remnants of wax which had served for attaching it, other arrows show clearly that they never had feathering. If there is feather- Ce [284] [191] ing, the feather parts attached by means of wrapping with cord and wax are small, as are those of most of the Chaco tribes.

/42 cont./

008
C
Ce
411
237
C
411
[284]

and wax are small, as are those of most of the Chaco tribes. In the diagram made by Hermann Meyer for the various types of South American arrows, the feathering of the Chiriguano and Chané arrows corresponds to those that this writer calls "Peruanische Pechfiederung" /Peruvian pitch-feathering/. The Chiriguano arrow provided with a dentate wooden point differs from the other arrows in that its point is attached directly to the shaft without interposing a special piece of wood. Otherwise, the form of its shaft, provided in this case with feathering, corresponds to the form of the arrow shafts fitted with iron points. V. Rosen (190), v. Nordenskiöld (191), and

190. V. Rosen, op. cit., Figs. 206-214.

191. Nord. 2, Fig. 6 B.

Métraux (192) show in drawings different types of Chiriguano

192. Métraux I, Plates 8 and 9.

arrows fitted with wooden points.

Métraux often found among the Chiriguano in the Caipipendi valley arrows fitted with two dentate wooden points, , which the young men used especially for shooting jacus (193).

193. Métraux I, p. 347 and Plate IX, N. 1.

Of the two Chiriguano bird-hunting arrows fitted with a club at the upper end instead of a point (sõngo), only one specimen, I. A. 534, can be considered typical. As I have already mentioned, it is the longest arrow in the collection. The other arrow for hunting birds, much shorter and badly made, doubtless was used only by boys. The form of the clubs of these two arrows (cf. Fig. 37e) is the same and also corresponds to the form of the arrows of this kind shown in

8: Schmidt--102 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8

C
411 /42 cont./
drawings by v. Rosen and v. Nordenskiöld (194). This club is

C
411
284 194. V. Rosen, op. cit., Fig. 212. Nord. 2, Fig. 6, D and E.

fastened directly on the inside of the upper part of the shaft. The shaft of the larger arrow is made of the same cane as that of the other arrows, and that of the smaller arrow is light wood. The binding on the upper part and also on the lower part of
C
[239] the shaft of the longer arrow consists of cotton thread secured with wax. The two arrows have feathering and have the same groove at the bottom end of the shaft. Several specimens of Chiriguano bird-hunting arrows whose clubs show different forms are shown in drawings by Métraux (195).

195. Métraux I, Plates X-XI.

C
Ca
411
174 The special form of the club of the arrows for shooting
[283] birds (cf. Fig. 37e) and the special method of binding the shaft with a cord of tree bark and the length which these arrows formerly had lead us to the conclusion that this type of arrow, equally common today among the Chiriguano and Chané, is the ancient form of arrow that the Chiriguano brought from their native soil to the west. I have already mentioned that the Chiriguano and Chané bows and arrows were formerly much longer. But we can also assume that these implements of the hunt and weapons of war, in accordance with their greater importance, were formerly better made than they are today.

C
Ca
411
524 According to Nordenskiöld, only rarely does the codoque, the bow for shooting balls, appear among the Chiriguano and Chané, and it is only used by youths and boys (196).

196. Nord. 2, p. 26.

8: Schmidt--108 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8

C 317 263

/45 cont./
the earth of the salt licks called "yukiu" (214).

214. Nord. 1, p. 189. See Métraux 1, pp. 359 and 360.

Making Fire

C Ee 372

Native implements to make fire are little used today by the Chiriguano and Chané. At home fire can generally be obtained from some other piece of burning wood, and for other occasions they commonly provide themselves with modern matches. Moreover, as I have said, the Chiriguano and Chané are not great smokers. One fire-making tool which is still found among them is the strike-a-light. The specimen I acquired from the Chiriguano is different from the strike-a-light of the Chaco tribes in that the tinder consists of a quite thick cotton wick. According to Métraux (215),

C Ee [178] [276]

C Ee [415] [237]

215. Métraux 1, p. 253.

there is also found among them the common form of strike-a-light in which the tinder consists of the fuzz of the fruit of the palo borracho (Chorisia insignis) kept in a container made of a a cow horn or armadillo tail.

C Ee 372 126

Fire-making Implements in the Collection

I. A. 516. (Fig. 40.)

a. Bag woven of cotton thread as a container for the implements.

b. Wick of cotton thread.

c. Receptacle for the lighted end of the wick, made of the nest of a species of wasp.

d. Piece of a modern metal file.

e. Pieces of flint.

8: Schmidt--109 E-6 (1935) 1958 SF10 Chiriguano SF10
Chane SF8
Izozo

/45 cont./

A small nest of a species of wasp serves as a container for the lighted end of the wick. The fire is produced by striking a flint with a piece of a modern metal file.

In a Chané legend recorded by Nordenskiöld (216), it

216. Nord. 1, p. 252.

turns out that the Chané formerly produced fire by rubbing one little stick upon another. According to this legend, two boys and a girl received fire from an old man, who is the sun. The bird Huapi advised them to take good care of the fire. Should it once go out, they would have to make new fire with the "tata," which is the /46/ implement for making fire by rubbing two sticks together. The cacique of the Izozó, when I asked him about this implement, also knew it well and called it by its name in Guaraní. Nordenskiöld once saw a Chiriguano who had no matches with him make a fire with such an implement (217).

217. Nord. 1, p. 50. Cf. Métraux 1, p. 354.

Ceramics

The great development of ceramics among the Chiriguano and Chané, the very great variety of forms of their diverse vessels and their ornamentation have long excited the interest of ethnologists. Nordenskiöld, who gives the number of variations in the forms of the vessels of these Indians as more than 50, has published a great many of them in outline and also presents the ornamentation of many of them in sketches (218). Eric v. Rosen has also shown numerous

218. Nord. 1, Figs. 77; 78; 82; 92; 113; 117; 121, and Plate 19. Nord. 2, Figs. 38-48.

8: Schmidt--115 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8
Izozo

Plate XIV

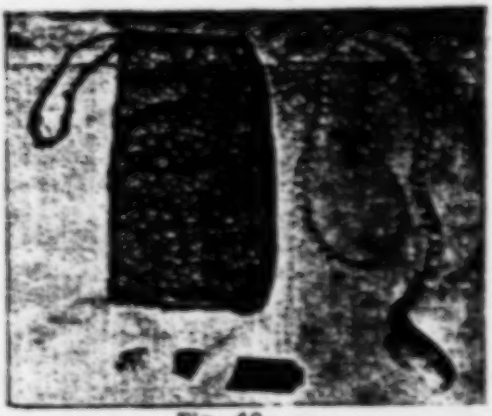


Fig. 40

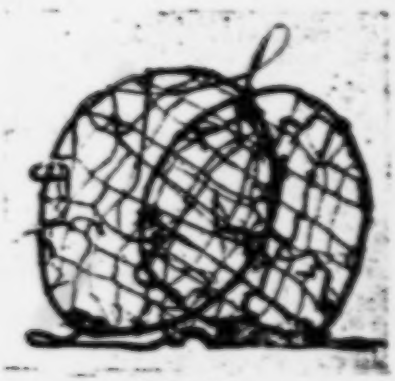


Fig. 41

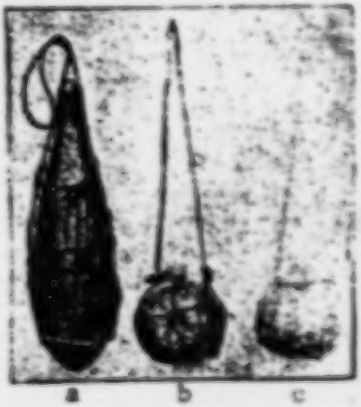


Fig. 42

Fig. 43

/The captions are on p. 117./

& Schmidt--117 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8
Izozo

/Captions for Plates XIV and XV./

C
372
415

Fig. 40. (I. A. 516) Implements for making fire (Chiriguano):
a (I. A. 516a), bag as receptacle for the implements, length 18 cm., width 8.5 cm.;
b (I. A. 516b), cotton wick, length 62 cm.;
c (I. A. 516c), receptacle for the end of the wick, nest of a species of wasp, length 4.2 cm.;
d (I. A. 516d), piece of a metal file, length 4 cm.
e, flint.

C
[237]
C
415
285

Fig. 41. (I. A. 583) A pair of hoops for storing goods (Chiriguano), diameter 43 cm.

Cc
415
Cc
[824]

Fig. 42. Calabashes for carrying water (Izozó):
a (I. A. 661), height 49.5 cm.;
b (I. A. 667), height 16 cm.;
c (I. A. 665), height 17.5 cm., made out of the fruit of the tree Crescentia Cuyeta /Crescentia cujete/.

C
285
796

Fig. 43. Objects plaited out of palm leaves, used in religious festivities (Chiriguano):
a (I. A. 1439), length 72 cm.;
b (I. A. 1440), length 37 cm.

C
415

Plate XV. Baked clay vessels for cooking foods (Chiriguano).

Fig. 44 (I. A. 414). -- Height 24 cm.
Fig. 45 (I. A. 418). -- Height 23.5 cm.
Fig. 46 (I. A. 413). -- Height 26 cm.
Fig. 47 (I. A. 419). -- Height 22 cm.
Fig. 48 (I. A. 412). -- Height 12 cm.
Fig. 49 (I. A. 417). -- Height 22 cm.

/55 cont./

323 Data on the thickness of Chiriguano vessels have been given by Oates in his publication which we have mentioned. According to him, "the walls of the vessels, in general, do not show great thickness: in those of larger size, they are from 15 to 20 millimeters; in the medium ones, they do not exceed 8 millimeters; in the small ventricose jars, they vary between 7 and 4 millimeters. As an exception to these, Oates mentions a small vessel with a height of approximately 6 centimeters and a maximum diameter of 12 centimeters, which is relatively thick, since its side walls are from 7 to 9 millimeters and the bottom reaches 15 millimeters (344).

344. Oates, op. cit., p. 128.

323 531 A large part of the vessels are provided, even before being baked, with handles or with different kinds of decoration on their surface. The surface of the neck of the vessels intended for cooking is decorated with sunken ornamentation by impressions made with the finger. Rings of clay are put on the surface of some vessels, as is shown by the piece of baked clay from a Chané vessel shown in a drawing by Limé (345), or the surface

345. Limé, Fig. 21. Nord. 1, p. 245.

is provided with small additions. Cf. the vessel shown in Fig. 44 /see p. 116/. The finer vessels are painted before the firing. The designs are applied in white, red, dark brown, and black (346).

346. Nord. 1, p. 246.

413 1391 The white color in general is the background color, on top of which are applied /56/ the other colors. For that tiny brushes made of agouti hair or of feathers held together with wax are used (347). The white color is an earth paint (kaolin), the red,

347. Métraux I, p. 385.

G. Schmidt--Tod B-6 (1908) 1914 SF:6 Chiriguano SF:10
Chaine SF6

/71 cont./

Spatulas for Stirring Foods, Which Are in the Collection

I.A. 561. (Chiriguano) Length 49.5 cm.
I.A. 569. " " 56.5 cm. (Fig. 71)
I.A. 571. " " 134 cm. (Fig. 70b.)
I.A. 577. " " 98 cm.
I.A. 578. " " 62 cm. (Fig. 70a.)
I.A. 579. " " 66.5 cm.

These wooden spatulas for stirring are used by the Chiriguano and Chané for stirring the bubbling crock of maize when it is being fermented. Some of these spatulas have decorations on their handles similar to those of the corresponding spatulas of the Guaraní Indians. Nordenskiöld shows in a sketch such a Chiriguano spatula with a zigzag decoration (782), and beside

782. Nord. 2. Fig. 17 A.

is (784) another form of these utensils, from the Chiriguano.

784. Nord. 2. Fig. 17 B.

which consists of the shoulder blade of a large mammal, attached to a wooden handle (785).

785. Nord. 2, p. 55. See Métraux 1. Figs. 33 and 34.

The Making of Fermented Drinks

Concerning the making of maize chicha, that is, the national drink of the Chiriguano, Nordenskiöld says the following (786):

786. Nord. 1, p. 237.

"[Now] the maize is /70/ ground up in large mortars, then sifted and boiled in large pots with water. A part of this mash,

/78 cont./

C 293 removed from the pot, chewed up and well mixed with saliva, is then mixed back in with the rest. Then it is strained and fermens in large open pots, at moderate heat. By means of C [412] [239] large wooden spatulas or mammals' shoulder blades fitted with wooden handles, the mash is mixed in the pot. We find a more detailed description of this process in the publication by Métraux (787).

787. Métraux I, pp. 365-369.

C Ce 251 The Preservation of Foodstuffs

Concerning the method of preserving foodstuffs, we know that the Chiriguano and Chané dry fish for future use, when fish are abundant (788). According to Nino (289), formerly meat

788. Nord. 1, p. 189.

C [113] 789. Niño, F. Bernardino der Etnografía Chiriguana. La Paz, 1912, pp. 249 and 250. According to Métraux.

from hunting was preserved for the great fiestas by drying it in the sun, without using salt. Even today, when a bovine animal is slaughtered, part of the meat is preserved by drying it in the sun (790).

790. Métraux I, p. 356.

E E 501 Transport

The Chiriguano and Chané, in contrast to the Itatines-Guaraya, do not have boats (791). Concerning means of

791. Nord. 1, p. 186.

/79 cont./

C
Ce
402
402
171
413

We must still note that the Chiriguano and Chané transport fish in the same way as the neighboring tribes of the Chaco, by stringing them on a cord provided with a big wooden needle (295).

295. Nord. 2, p. 46.

Implements for Storing Objects

C
Ce
352
353
415

Most of the objects that serve for storing things have also been mentioned in preceding chapters, such as the various kinds of baskets and the wooden hoops which are hung in the houses for storing sundry things in them. The net bag and the carrying net do not serve only for carrying, but also for storing things in them. Baked clay vessels are not only used for storing liquids, but are also used for storing many other things which have a special value or are old memorabilia of the family (296). Furthermore,

296. Nord. 1, p. 179.

C
Ce
[237]

they put up special hooks for hanging various things in the houses. Such a hook is shown in a drawing by Nordenskiöld (297),

297. Nord. 1, p. 177 and Fig. 86.

and Métraux shows such a hook made of a deer's leg (298).

298. Métraux I, Fig. 128.

Art

C
534
126

Flutes and a Whistle in the Collection

I.A. 491. Flute, "sererê" (Chirig.). Wood. Lgth. 17 cm. Width 2.7 cm. (Fig. 33b.)

I.A. 492. " " " " " 20 cm. Width 3.5 cm. (Fig. 33a.)

I.A. 493. Flute (Chiriguano). Cane. Length 43 cm.

/80 cont./

Ce 534 The double whistle I.A. 495 consists of two pieces of cane joined together in the manner of Panpipes. In contrast to the flutes described in the preceding, the two tubes of these whistles have lips. One, which has four holes for making the sounds vary, measures 33.5 cm., and the other, which does not have such holes, is only 7 cm. long. A whistle of this kind, but not double, is shown in a drawing by Nordenskiöld (303).

303. Nord. 2, Fig. 36b.

In addition to these musical instruments, Nordenskiöld describes a few others that he saw among the Chiriguano and Ce [191] Chané. Among them can also be found those round flutes which are used by many tribes of the Chaco and one of which is shown in a sketch by Nordenskiöld (304). They also have large

304. Nord. 2, Fig. 35.

trumpets, which the Chiriguano call "angùahuasi," while the common trumpet is called by the same name as is the mortar, "angúa" or "angúarai." One can also find trumpets made out Ce [237] [324] of a cow's horn or a calabash, which are blown at the upper end (305).

305. Nord. II, p. 119, Fig. 37 A and B.
Métraux I, p. 337, Fig. 35.

According to Nordenskiöld, the Panpipes, which consist of several flutes joined together, are rarely found among these Indians (306).

306. Nord. 2, p. 126.

Ce 415 532 Plastic art is little developed among the Chiriguano and Chané. On rare occasions we find plastic art in the form of animals in the forms of the baked clay pottery of the Chiriguano (307).

307. Nord. 2, Fig. 41, N. 4, and Fig. 45, N. 20.

/87 cont./

C 881 [302] The girl is nubile when, after the first menstruation, she has undergone a certain ceremony, which lasts until her hair, cut short, has grown out again to medium length. This ceremony of the girls, which is called "yimundia," consists of her being put in a kind of separate room inside the house. Until the following menstruation, she must stay on a diet and she must not eat anything but cooked maize and meal (339). Only in the

C [262]

339. Métraux I, p. 320, note 3.

company of her mother may she temporarily leave the separate room to bathe and to take care of her other needs (340).

340. Nord. 1, p. 210.

C 881 304 We also learn from Nordenskiöld that the Chané boys from 10 to 12 years of age must also undergo certain ceremonies, which consist in having a man who is particularly expert in such matters pierce the lower lip (341) and put a small stick through the hole,

C [413] [237]

341. According to Métraux I, pp. 346 and 347 and Fig. 12, the Chiriguano formerly used for that purpose punches made of horn.

and his grandfather puts deep wounds in his body so that he may be valiant in battle and in hunting and takes him out in the morning, when it is cold, to bathe (342).

342. Nord. 1, p. 211.

C Ce 887 848 Chiriguano and Chané girls are watched over by their mothers /88/ until their marriage (343), and illegitimate children are

343. Nord. 1, p. 179.